

The Institution of Engineers, Australia	
Sydney Engineering Heritage Committee	
Oral History Program	
INTERVIEW TAPE LOG	
Interviewee: Thomas Myles O'Donnell	Tape Numbers: IEA SYD CMcH 1 IEA SYD CMcH 2 IEA SYD CMcH 3
Interviewer: Cathy McHardy	Number of Tapes: Three (3)
Place of Interview: Epping, NSW	
Date of Interview: 7 th , 22 nd and 23 rd August 1990	
Restrictions on Use: None stated	
Log prepared using (make and model of machine):	Optimus Vox Voice Activated Cassette Recorder Model No. CTR-107

Tape: IEA SYD: CMcH 1, Side A		
Time/ Counter	Subject	Proper Names & Keywords
000-138	Gives details of his parents, where they were born and where they met, parents' occupation and marriage. Talks about origins of his early interest in radio, as a young boy made batteries for alarms in his father's bank; talks about his father's career as a postmaster and later with Government Savings Bank. Describes type of equipment he could set up.	McKittricks, Grafton Postmaster, Grenfell Morse sounder Campsie Wet batteries Cessnock Gilbert kit Morse key
139-265	Reflects on cost of equipment. Discusses great encouragement and assistance received from father; early interest and experiments with audio; others in the district also interested in amateur radio and helped him gain amateur licence.	Cessnock Radio Aberdare Extended Amateur radio licence Chris Cowan VK2PZ Chamber of Commerce Armstrong, Senior Radio Inspector Radio receiver Jim Scully Radio Licence Holy Cross College Ryde
266-499	Good science teachers at school, some from Cambridge. First job was to set up own business in Cessnock, later moved to Sydney, discusses jobs held. Also interested in commercial radio. Life during Depression. Talks in detail about methods of communication in Cessnock mines and equipment used, tests done.	Schooling Holy Cross Cessnock Sydney Zenith [Mr] Parker Price's Radio Randwick Aberdare Extended Underground communication Use of radio in mines Pioneers in field South Africa Great Britain

Tape: IEA SYD: CMcH 1, Side A		
Time/Counter	Subject	Proper Names & Keywords
500-712	Recalls other events in Cessnock. Radio contact with aground Navy survey ship. Discusses move back to Sydney, studying for commercial licence, new job. Radio technology moving fast so decided to join Commonwealth government department to be able to learn more.	Amateur radio Garden Island Rear Admiral Moyes Commercial licence 2UE Lilli Pilli Blackwoods Emporium Commonwealth Department PMG's Department [Mr] Robinson
	End of Side A, Tape IEA SYD: CMcH 1	

Tape: IEA SYD: CMcH 1, Side B		
Time/Counter	Subject	Proper Names & Keywords
000-114	Continuation about new job. Becomes a member of a local radio club. Relates beginnings of the Wireless Institute of Australia. Describes amateur radio equipment he used at home in pre-war period.	Engineering Branch, PMG Transmitters ABC Lakemba Bill Picknell Wireless Institute of Australia Wireless Institute Division Melbourne TPTG ("tuned plate, tuned grid") Receivers Paul Reinhartz Antenna
115-282	Describes radio experiments and other activities enjoyed with friends. Photos and articles on their activities were published in radio magazine.	Camping Good organization Bill Phelps VK2DL John Warren VK2QX Colong Caves Burrogorang Valley Cave crawling Radio direction finding Cox's River Aerials Cattai Creek Les Taylor VK2CL "Australasian Radio World" Earl Read
283-441	Describes photo taken on the day the Kogarah to Sans Souci trolley bus service began - line terminated at Kogarah railway station - event was broadcast (with permission) on amateur 40 meter band. Outlines his duties on joining the ABC. Discusses the effects the war had on his freedom as a radio amateur, all transmission equipment had to be handed in.	Bill Phelps VK2DL Transmitter ABC Radio Australia propaganda Radio transmissions Receivers Lakemba Radio Club VK2LR Call signs
442-	Discusses the types of programs broadcast by Radio Australia at that time (during the war). Explanation of the meaning of the word "scramble" regarding transmission, and what it did.	Indonesia New Zealand Directional antenna systems Jamming of broadcasts Japanese cipher Morse code

529-613	Outlines his duties as one of the control operators, and the recording equipment used.	"Listening post" Receivers Acetate disk Wire recorders
614-713	Talks about equipment he used after the war. Joined the Commonwealth Acoustic Laboratory; installed and carried out recording facilities for first Parliamentary broadcast. American dumping of equipment.	MOPA equipment Commonwealth Acoustic Laboratory Canberra First Parliamentary broadcasting transmission Dr H V Evatt
End Side B, Tape CMcH 1		

Tape: IEA SYD: CMcH 2, Side A		
Time/Counter	Subject	Proper Names & Keywords
000-044	Continuation of statement regarding Americans dumping equipment off jetties after the war. Visit to Captains Flat Gold Mine after Canberra visit. Continues his discussion about the first Parliamentary broadcast and how it was done.	Canberra Captains Flat gold mine Frank McInerney
045-190	Talks about how he joined the Acoustics Laboratory, and duties involved. Types of hearing aids available were not good enough. Testing of postwar effects on pilots' hearing. Relates how his background in radio and engineering was an advantage in gaining position with Royal Prince Alfred Hospital, working in Clinical Neuro Physiology Department. Lab personnel needed who could service, maintain, design and alter electro-encephalograph equipment.	Unsuitable hearing aids Testing aids Pilots Hearing frequency response Evaluation apparatus Royal Prince Alfred Hospital Audiology Department Clinical Neuro Physiology Ian Gardiner Amplifiers Transistors Bell Telephone Laboratory
191-384	Describes type of equipment being used when he joined RPA. Technical explanation of encephalograph machines. Describes what electrodes were made of and how they were attached to the patient. Was asked to design better electrodes; standardisation of EEG headband and electrodes.	Offner Instrument Company Franklin Offner, physicist Electro-encephalogram Grass Instrument Company Clifton recorder Electro-encephalograph Low frequency amplification and recording EEG waves Electrodes Craig Walter Alpha, beta waves etc
385-540	Talks about his time at Royal Prince Alfred Hospital, his contribution to EEG and diagnostic procedures. Describes electric, electronic and other problems encountered and how they were solved. Training of EEG recordists. Discusses hospital funding and machinery.	Electro-encephalograph sub-department EEG Problems EEG recordists Funding Photic stimulator
541-595	Discusses his secondment to Royal Perth Hospital to oversee installation and operation of first EEG, describes making equipment.	Dr O'Reilly
End Side A, Tape CMcH 2		

Tape: IEA SYD: CMcH 2, Side B		
Time/Counter	Subject	Proper Names & Keywords
000-154	Resumed involvement with amateur radio about 1960. Prior to this, time taken up with study and family matters. Tells of how he came to live in Wahroonga, purchase of land etc. Gives description of land. Train transport to work.	Medical electronics Frank Boyle The Kernots Bundarra Avenue South Spring Valley Creek Pearce's Corner
155-420	Talks about his time at Acoustics Laboratory, and at Royal Prince Alfred Hospital. Invited to look after medical diagnostic equipment in other institutions; with Dr Rail laid out a design for a comprehensive clinical department, gives description. Describes experiments with ultrasonics and equipment used.	Dr Leonard Rail Dr Geoffrey Trahair Dept of Electro-encephalography (EEG Dept)

	Introduction of photic stimulation technique. Built and supplied electromyograph. Discusses working with patients with cerebral palsy. Also worked with Dr Rail. Discusses effect of Sydney's humidity on electro-encephalograph machine and how problem was solved. Encephalograph installed at Sydney Hospital.	Royal Alexandra Hospital for Children Grass Instrument Company RPA Ultrasonics John Northcott Neurological Centre Electromyograph Spastic Centre, Mosman Transistor oscillator Camperdown Royal North Shore Hospital Medical electronics Sydney Hospital
421-620	Relates how and why the NSW Society for Medical and Biological Engineering was formed; discusses his time as President and organising the first symposium held. Was on the Council for Australian Federation for Medical & Biological Engineering.	Symposium on computers in physiology and medicine University of New South Wales R D Sutherland D J Dewhurst
621-640	Chosen to be on Executive Committee for the organization of an International Conference on Medical and Biological Engineering in Melbourne August 23, 1971.	International Conference Melbourne
	End Side B, Tape CMcH 2	

Tape: IEA SYD: CMCh 3, Side A		
Time/ Counter	Subject	Proper Names & Keywords
000-071	Describes attendance at Melbourne Conference 1971, and topics discussed. Next conference held in Dresden, East Germany, and O'Donnell decided to attend representing the technical side.	Professor Zworykin David Dewhurst Dresden RPA Hospital
072-190	Relates papers presented at Dresden Conference 1973. Visited research facilities at University of California on the way to Dresden; diagnostic procedures. Also attended El Rancho Los Amigos at Downey in Los Angeles which specialised in the study of gait, describes his visit there; visited Georgia Institute of Technology to continue his study of cerebral palsy patients.	Ultrasound Dept of Neurology Diagnostic procedures Electromyography Georgia Institute of Technology
191-278	Describes his visit to Veterans Hospital at Long Beach, California; observed different muscle techniques. A highlight was attending the Head Office and factory of Grass Instrument Company, Quincy, Massachusetts. Was asked by Royal Alexandria Hospital for Children and RPA to look at the latest developments and new apparatus.	Mr Williams Grass Instrument Albert and Ellen Grass
279-370	Visited National Hospital, Queens Square, London after Dresden, met electronic engineer Peter Fitch. Observed work done on the fitting of small transmitters to people who had brain diseases. Visited a company Medelek which manufactured diagnostic equipment for EEGs etc Describes travel on very fast train from Luton to St Pancras	Peter Fitch Luton St Pancras Advanced equipment
371-478	Talks about his attendance at Conference in Ottawa in 1976, wide range of people there. Great advancement in diagnostic procedures between 1971 and 1976 Conferences. Made contact with another amateur radio person. Visited museums with wife.	Ottawa, Canada Advancement Medical electronics Amateur radio contact Radio antenna development Dorothea (Mrs O'Donnell)
479-714	Discusses keeping up with changing trends in medical technology. Describes renewal of his interest in amateur radio in 1961, gives technical explanation of equipment; experiments with antennas. 36 types of antennas in 57 years of amateur radio. Decided to concentrate on building aerials, gives description.	Electro-encephalogram Change of techniques Video and audio applications Electro-retinography (ERG) NSW Division of Wireless Institute of Australia Australian Capital Territory Transmitter Amplifiers Morse code Antennas V Beam California Ottawa Al Abram WA6RKI
End Side A, Tape CMCh 3		

Tape: IEA SYD: CMCh 3, Side B		
Time/ Counter	Subject	Proper Names & Keywords
000-083	Continuation of technical explanation about types of antennas and aerials.	Gridley, California Spring Gully Creek Ecuador Quito Cubical Quad Directional aerials

		4 over 4
084-202	Technical explanation of how modern technology has changed the equipment for amateurs and the way in which radio amateurs have contributed to the progress of better quality communications.	Power transformers Tuning coils RCA EMIC AWA Alec Chapman from Wyong Maintaining stability Oscillators Transistor KWM1 transceiver Hybrid transmitter Collins Company
203-324	Discusses how over the last five years radio amateurs have again begun to build their own equipment; availability of test equipment and provision of kit sets have contributed to this. Amateur radio equipment now of very good quality.	Heathkit Calibration KWM1 Dept of Civil Aviation Linear calibrated dial PMG's Department Frequency generator
325-484	Talks about the amateur satellites, gives technical explanation. Oscar 1 first orbiting satellite designed by 4 radio amateurs, now up to No. 13. Other amateurs sending up satellites.	Oscar 1 Melbourne University NASA Vandenberg Launching Pad Van Allen Belt Oscar 10 Satellite control Oscar 13 Oscar 9 Oscar 6,7 and 8 Solar cells Uplink and downlink
485-543	Talks about being awarded MBE in 1979 for work done in the field of medical technology. Reflects on what he considers to be his most important achievements in 30 years at Royal Prince Alfred Hospital	Sir Roden Cutler Standard EEG electrode Development of photic stimulator
End side B, Tape CMCH 3 End of Interview		